

Patent Claims

- Sub D1
1. A vessel for withdrawing blood, containing an aqueous solution with the following components:
 - a guanidinium salt;
 - a buffer substance;
 - a reducing agent; and/or
 - a detergent.
 2. The vessel according to claim 1, characterized in that the guanidinium salt is selected from guanidinium thiocyanate and guanidinium chloride.
 - Sub D2
 3. The vessel according to ^{claim 1} ~~any one of claims 1 or 2~~, characterized in that the guanidinium salt is present at a concentration of 1 to 8.0 M, preferably 2.5 to 8.0 M.
 4. The vessel according to ^{claim 1} ~~any one of claims 1 to 3~~, characterized in that the buffer substance is selected from Tris, HEPES, MOPS, citrate and phosphate buffer.
 5. The vessel according to ^{claim 1} ~~any one of claims 1 to 4~~, characterized in that the buffer substance is present in a concentration of 10 to 300 mM.
 6. The vessel according to ^{claim 1} ~~any one of claims 1 to 5~~, characterized in that the detergent is selected from Triton-X-100, NP-40, polydocanol and Tween 20.
 7. The vessel according to ^{claim 1} ~~any one of claims 1 to 6~~, characterized in that the detergent is present in a concentration of 5 to 30% by wt.

8. The vessel according to ~~any one of claims 1 to 7~~ ^{claim 1}, characterized in that the reducing agent is selected from dithiothreitol, β -mercaptoethanol and TCEP.

9. The vessel according to ~~any one of claims 1 to 8~~ ^{claim 1}, characterized in that the reducing agent is present in a concentration of 0.1 to 10% by wt.

10. ^{Sub 23} The vessel according to ~~any one of claims 1 to 9~~ ^{claim 1}, characterized in that the pH of the solution is between 4.0 and 7.5, preferably between 4.0 and 6.5.

11. The vessel according to ~~any one of claims 1 to 10~~ ^{claim 1}, characterized in that the solution contains the following components:

- 4 m guanidinium thiocyanate;
- 45 mM Tris/HCl;
- 15% (w/v) Triton-X-100;
- 0.8% (w/v) DTT,

wherein the pH is at 6.0.

12. The vessel according to ~~any one of claims 1 to 11~~ ^{claim 1}, characterized in that it has a vacuum in the chamber which is provided for receiving blood.

13. The vessel according to ~~any one of claims 1 to 12~~ ^{claim 1}, characterized in that it contains withdrawn blood.

14. ^{Sub 25} A method of withdrawing blood, comprising the steps of directly introducing the blood into a vessel according to ~~any one of claims 1 to 13~~ ^{claim 1}.

15. The method according to claim 14, characterized in that an amount of blood is withdrawn that is 0.1 to 4 times the volume of the solution in the vessel.

Sub D6
16. The method according to claim 15, characterized in that the final concentration of the guanidinium salt after blood supply is between 1.0 M and 5 M, preferably 1.5 and 5 M.

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17. A method for stabilizing and/or isolating nucleic acids from blood, claim 1 comprising the step of introducing blood into a vessel according to ~~any one of claims 1 to 13~~ and, optionally, isolating the nucleic acids with conventional methods.

Sub D8
18. The method according to claim 14, characterized in that the pH of the solution is adjusted such that following the addition of the sample material a pH between 4.0 and 7.5 is obtained.

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19. Use of the vessel according to claim 1 ~~any one of claims 1 to 13~~ for withdrawing blood, preferably from humans.

20. Use of a solution containing a guanidinium salt, a buffer substance, a detergent and/or a reducing agent in a vessel for withdrawing blood.

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21. A stabilized blood sample obtainable by introducing whole blood into a vessel according to any one of claims 1 to 13.

Sub D9
22. The blood sample according to claim 21, characterized in that it has a pH of 4.0 to 7.5, preferably 6.6 to 7.0.

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23. The blood sample according to claim 21 or 22, characterized in that it is derived from human blood.

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add D1 > *add D4* > *add D7* > *add D10*